

ABSTRACT OF THE DISCLOSURE

Methods and apparatuses to generate and to access compressed and indexed elevations of Digital Elevation Models. In one aspect of the invention, a method to store elevation data includes: compressing elevation data of a first portion of a Digital Elevation Model (DEM) to generate first compressed elevation data; storing the first compressed elevation data in a storage location pointed to by a first index; and storing the first index. In another aspect of the invention, a method to retrieve elevation data includes: locating a first compressed portion of a Digital Elevation Model (DEM) using a first index; and decompressing the first compressed portion to retrieve first elevation data for at least one sample point in the Digital Elevation Model. The Digital Elevation Model has a plurality of compressed portions which includes the first compressed portion; and the first index points to a storage location where the first compressed portion is stored.